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मानक

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

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Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10970 (1984): Keys for Mine Cages [MED 8: Mining Techniques and Equipment]



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“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR
KEPS FOR MINE CAGES

1. Scope — Covers the general requirements for keps for mine cages having flat seating surface for holding the cages in required position.

2. Terminology

2.1 'ON' Position — When the keps are fully extended in shaft in the travelling path of the cages, the keps are said to be in the 'ON' position.

2.2 'OFF' Position — When the keps are fully retracted in shaft from the travelling path of the cages, the keps are said to be in 'OFF' position.

3. Classification — Depending on the position of operating lever, the keps are classified as follows:

- a) *Right Handed* — If the operating lever is provided towards the right hand of the seating surface, the keps are termed as right handed.
- b) *Left Handed* — If the operating lever is provided towards the left hand of the seating surface, the keps are termed as left handed.

4. Material

Component	Material Conforming to
Lever	IS : 226-1975 'Structural steal (standard quality) (fifth revision)'
Shaft	35C4 of IS : 1570 (Part II)-1979 'Schedules for wrought steels for general engineering purposes: Part II Carbon steel (unalloyed steel) (first revision)'
Kep body	20Mn2 of IS : 1570-1961 'Schedules for wrought steels for general engineering purposes'

5. Designation — A kep for mine cage shall be designated by its commonly used name, distance of seating surfaces along the length and width of cage GXF [see 9(a)], classification and the number of this standard.

Example:

A kep with GXF as distances between seating surfaces along the length and width respectively of cage having operating lever on the right side shall be designated as:

Kep GXF Right IS : 10970

6. General Requirements

6.1 The distance between seating surface of kep and the edge of cage platform, when the kep is in 'OFF' position, shall not be less than 50 mm.

6.2 The distance between the edge of the cage platform and the extreme point of the supporting structure for keps shall not be less than 50 mm.

6.3 The keps shall normally be in 'ON' position.

Adopted 31 July 1984	© September 1984, ISI	Gr 2
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Mining Sectional Committee, EDC 50; Shaft Equipment Subcommittee, EDC 50: 7 [Ref: Doc: EDC 50 (3870)]

6.4 The position of operating lever of keps shall be secured by means of a pin or other suitable means in its 'OFF' position.

6.4.1 The design of locking mechanism shall be such as to prevent the operation of keps by unauthorized persons.

6.4.2 The design of keps shall be such as to allow the cage to run in the shaft with ease with operating lever in the 'OFF' position.

6.5 The keps shall be designed for loads of 5, 8, 10, 12 and 15 t.

6.6 The seating surface of the keps shall have a length of not less than 60 mm and a width of 50 mm.

6.7 When cage is seated on the keps, the keps shall ensure smooth running of mine tubs or mine cars without undue shock and vibration from the rails of the track.

6.8 The seating surfaces of keps supporting a cage shall be in one horizontal plane and their deviation shall not exceed 2 mm.

6.9 The keps in 'OFF' position shall not project beyond the limits of the supporting beam.

6.10 The components of keps shall be interchangeable.

6.11 An automatic indicator shall be provided to indicate the position of the keps.

6.12 The keps shall be supplied in complete set and shall contain:

- a) Keps in dismantled form (*see also* 8);
- b) Spare parts; and
- c) Technical documents, such as certificates, drawing of general view, mounting and operation manual, etc.

7. Marking — Each keps shall be marked with manufacturer's name or identification mark and loading capacity.

7.1 ISI Certification Marking — Details available with the Indian Standards Institution.

8. Painting and Packing — The keps shall be transported in partly dismantled condition. The unmachined parts of keps shall be painted as desired by purchaser. The machined components shall be suitably protected against corrosion with grease conforming to IS : 958-1975 'Temporary corrosion preventive, grease, soft film, cold application' to protect it against rusting for a period of 6 months.

9. Data to be Supplied at the Time of Enquiry or Order — Following data read with Fig. 1 and 2 shall be supplied at the time of enquiry or order:

- a) Distance of seating surfaces along length and width of cage 'GXF';
- b) Classification of keps;
- c) Number of sets required;
- d) Loading capacity of keps;
- e) Maximum dimensions of cage platform, $A \times B$;
- f) Track gauge of mine car or mine tub;
- g) Distance between surface of cage platform and seating surface of keps (*see* H_1 in Fig. 1 and 2);
- h) Distance between seating surface of keps and top edge of structure for fixing the base of keps (*see* H_2 in Fig. 1 and Fig. 2); and
- i) The distance between the axis of the tie rod of keps and the centre line of cage (*see* L in Fig. 1 and 2).

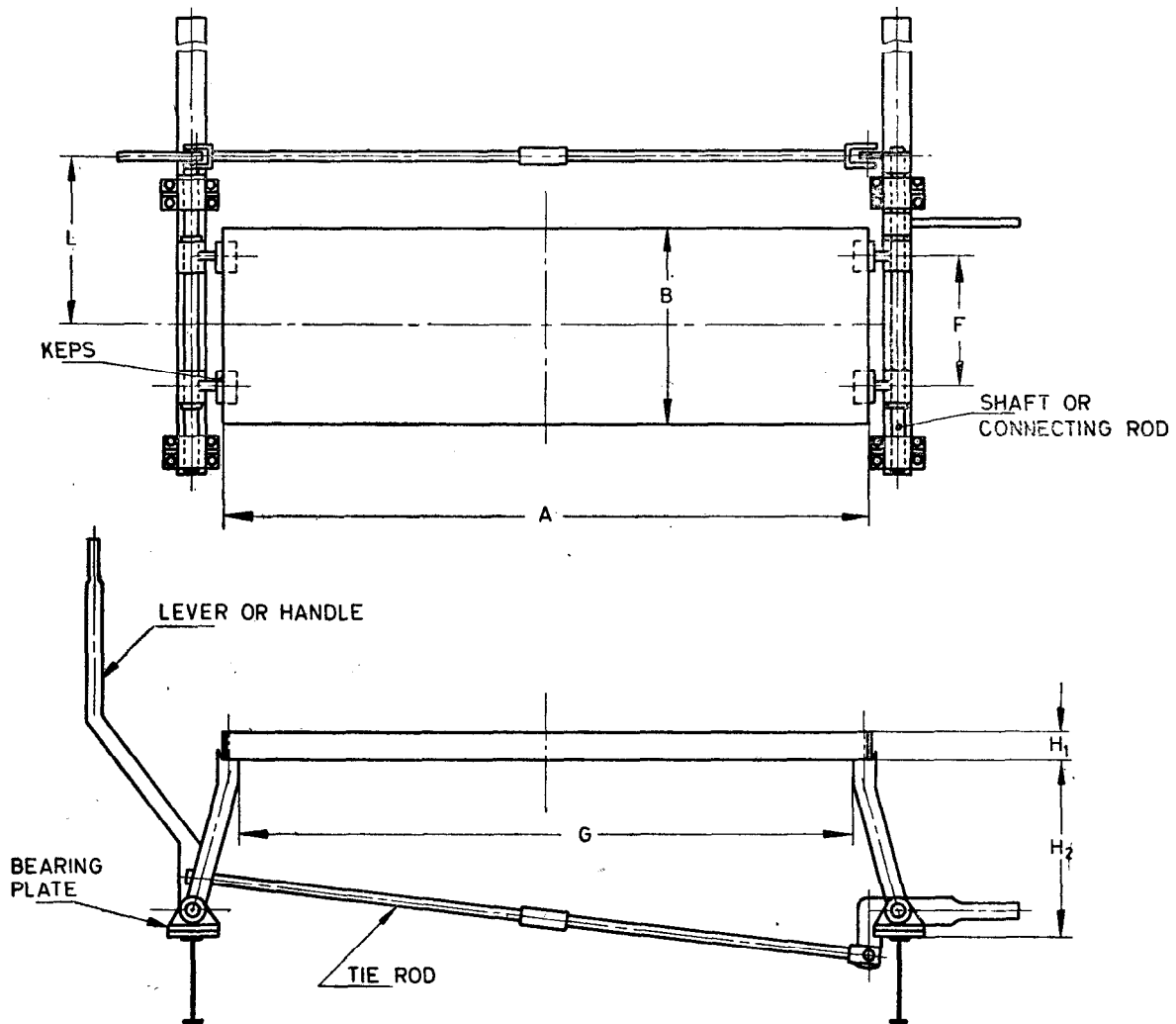


FIG. 1 GENERAL LAYOUT OF KEPS

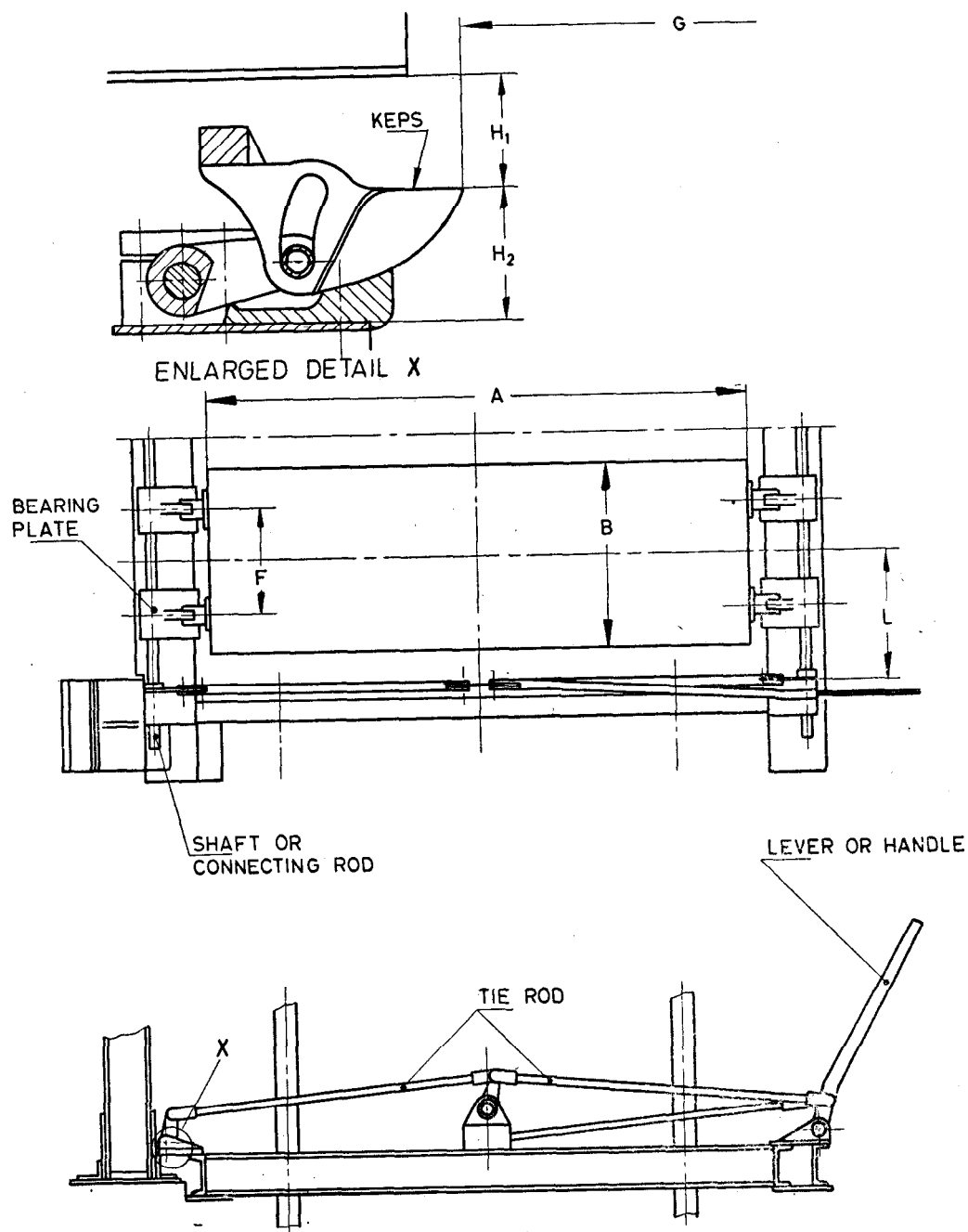


FIG. 2 GENERAL LAYOUT OF KEPS

EXPLANATORY NOTE

In the preparation of this standard, considerable assistance has been derived from the following:
 CSN 445385 "STAVITKA TEZNYCH KLECI" (Hoist cams for lift cages), issued by Urad Pro
 mormalizaci a mereni, Praha.
 GOST 4053 'Landing keps for mine cages' issued by USSR State Committee for Standards,
 Moskva.